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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,373	06/22/2001	Kathy T. Stark	80168-0123	5675

32658 7590 09/29/2005

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CHANKONG, DOHM	
ART UNIT	**PAPER NUMBER**
2152	

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/886,373	STARK ET AL.	
	Examiner	Art Unit	
	Dohm Chankong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-11,14,16-18,21-26,31,36-39 and 41-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-11,14,16-18,21-26,31,36-39 and 41-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1> This action is in response to Applicant's amendment and remarks in the after final response. Claims 1, 3, 5-11, 14, 16-18, 21-26, 31, 36-39 and 41-80 are presented for further examination.

2> This is a final rejection.

Response to Arguments

3> In response to the final rejection mailed 7.8.05, Applicant swore behind the 2 prior art references. In light of this, the previous final rejection is VACATED. However, a new final rejection is submitted based on new prior art.

4> Applicant's arguments with respect to claims 1, 3, 5-11, 14, 16-18, 21-26, 31, 36-39 and 41-80have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5> Claims 1, 5-11, 51-80 are rejected under 35 U.S.C § 103(a) as being unpatentable over Alfieri et al, U.S Patent No. 5.666.486 ["Alfieri"], in view of Azagury et al, U.S Patent No. 6.493.716 ["Azagury"], in further view of Sreenivasan et al, U.S Patent Pub 2002|0049845 ["Sreenivasan"]

6> Alfieri is directed to methods and systems for providing enchanced control over node transitions in cluster environments [abstract | column 1 «line 60» to column 29»].

7> As to claim 1, Alfieri discloses a network having a plurality of nodes running services that collaborate to provide a distributed environment for one or more applications [abstract], comprising:

a master node within said plurality of nodes, said master node including a primary server to run a centralized system service comprising a cluster membership monitor running to manage membership of a set of the plurality of nodes in a cluster [column 6 «lines 28-39»];

a system services coordinator on each of said plurality of nodes in the cluster to coordinate a function defining an operational transition in the cluster and regarding said centralized system service [abstract | column 4 «lines 46-62» | column 5 «lines 27-55» | column 9 «lines 44-55» | column 11 «lines 55-63»].

Alfieri also discloses a system services coordinator processes the callback actions for said centralized system service as part of the function coordinated by the system services coordinator [column 4 «lines 46-62» | column 9 «line 44» to column 10 «line 20» | column 11 «lines 55-63»] but does not explicitly disclose registering callback actions with said system services coordinator.

Alfieri also fails to disclose a vice node within the plurality of nodes.

8> Alfieri discloses function actions that are a component of a subsystem of each node in the cluster, implicitly suggesting that the actions have been "registered" as components in the subsystem. Furthermore, Azagury discloses callbacks registered as part of the function coordinated by coordinators (FGM) [column 3 «lines 12-27» | column 11 «lines 49-52»]. It would have been obvious to one of ordinary skill in the art to incorporate Azagury's registration of the callbacks into Alfieri's system so that his nodes can utilize the callbacks for particular messages.

Backup nodes within a cluster are well known and expected in the art. Alfieri even discloses that "there must be coordination of which node implements which services during a failure scenario". However, Alfieri fails to explicitly disclose a vice node including a secondary server to run the centralized system service when the master node fails. Sreenivasan discloses a vice node within a plurality of nodes, the vice node including a secondary server to run the centralized system service when the master node is unable or unavailable to run the centralized system service [0020, 0065]. Thus, it would have been obvious to one of ordinary skill in the art to incorporate a backup node within Alfieri's system as such an implementation ensures "high-availability" of services, prevents faster recovery from failed nodes and is keeping in line with Alfieri's stated goal of providing improved performance by nodes during node transitions [see Alfieri, column 5 «lines 34-37»].

9> As to claims, 5, 6, 7, 9 and 10, Alfieri discloses an initialization function [column 10 «lines 8-14» | column 11 «line 66» to column 12 «line 6»], a shut down function [column 12 «lines 7-10»], a promote function [column 11 «lines 8-11»], a disqualify function [column 10 «lines 61-64» : by implication, because of "disallowable nodes"], and a qualify function [column 10 «lines 49-53», by implication because of "allowable nodes"].

10> As to claim 8, Alfieri does not expressly disclose a demote function.

11> Sreenivasan discloses a demote function, removing a master label from a master node [paragraph 0063]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's demote function and vice node capability to provide a layer of fault-tolerance. Sreenivasan thus improves Alfieri by providing backup nodes to take over if the master node in the cluster fails.

12> As to claim 11, Alfieri discloses the network of claim 1, wherein said plurality of nodes includes a master-eligible node [column 11 «lines 8-11» : decision making node selects the best node].

13> As to claim 51, Alfieri does not expressly disclose electing a vice node within said network.

14> Sreenivasan discloses a vice node within a plurality of nodes, the vice node including a secondary server to run the centralized system service when the master node is unable or unavailable to run the centralized system service [0020]. Thus, it would have been obvious to one of ordinary skill in the art to incorporate a backup node within Alfieri's system as such an implementation ensures "high-availability" of services and prevents any harmful disruption.

15> As to claim 52, Alfieri and Azagury do not explicitly disclose the claimed limitations.

16> Sreenivasan discloses switching over the master node having primary servers for the centralized system services, comprising:

informing the system services coordinator on said master node of a loss of master eligibility on said master node [paragraphs 0063, 0073];

invoking switchover callbacks registered at said system services coordinator [paragraphs 0063, 0073 where: Sreenivasan's commands are analogous to the callbacks]; and

transferring states of said primary servers to secondary servers for said centralized system services at a vice node [paragraphs 0017, 0063].

It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice

node to backup the master node as necessary and is keeping in line with Alfieri's stated goal of providing improved performance by nodes during node transitions [see Alfieri, column 5 «lines 34-37»].

17› As to claim 53, Alfieri discloses updating said plurality of nodes on said transferred states via said system services coordinator [column 3 «lines 65-67» | Table 1].

18› As to claim 54, Alfieri discloses updating non-centralized system services via said system services coordinator [column 12 «lines 11-23»].

19› As to claim 55, Alfieri discloses triggering a switchover condition on said master node [column 6 «lines 23-54» | column 10 «lines 5-20» : where Alfieri discloses switching over for failed nodes including Alfieri's master node].

20› As to claim 56, Alfieri and Azagury fail to disclose the claimed limitations.

21› Sreenivasan discloses failing the master node having primary servers for the centralized system services, the failing comprising:

claiming mastership of said network at a vice node and informing said centralized system services via the system services coordinator [paragraphs 0026, 0061, 0063, 0262, 0263]; and

recovering states of said primary servers on said master node to secondary servers of said centralized system services on said vice node [paragraph 0017, 0022].

It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice node to backup the master node as necessary.

22› As to claim 57, Alfieri discloses detecting transferring services but fails to disclose detecting that said primary servers have been transferred

23› Sreenivasan discloses detecting that said primary servers have been transferred [abstract | paragraph 0026]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's detection of transferred servers so nodes within the cluster are aware of when a new master has been elected. Such functionality is well known and expected in the art.

24› As to claim 58, Alfieri discloses synchronizing a reconnection to said centralized system services at said plurality of nodes via said system services coordinator [column 12 «lines 24-32»].

25> As to claims 59 and 60, Alfieri fails to disclose the claimed limitations.

26> Sreenivasan detecting a failover condition at said master node [paragraphs 0017, 0026]. and electing another vice node [paragraphs 0020, 0065]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice node to backup the master node as necessary.

27> As to claim 61, Alfieri does not disclose the claimed limitations.

28> Sreenivasan discloses demoting a master eligible node among the set of the nodes in the cluster within the network, the demoting comprising:

initiating a demote callback sequence from the system services coordinator [paragraph 0063 where: removing a failed primary node by assigning a backup as the new primary is comparable in functionality to a demote function (for the failed primary node)];

transitioning centralized system services servers on said master-eligible node to a spare state [paragraph 0061, 0238]; and

updating said system services coordinator [paragraph 0169, 0173, 0181].

It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's demote function, vide node capability and associated functionality into

Alfieri's cluster system to provide fault tolerance. Such an improvement enhances Alfieri's ability to handle master node failures and is keeping in line with Alfieri's stated goal of providing improved performance by nodes during node transitions [see Alfieri, column 5 «lines 34-37»].

29› As to claim 62, Alfieri discloses the method of claim 61, further comprising triggering a switchover condition on said master-eligible node [column 8-14» | column 12 «lines 24-32» where : any of Alfieri's nodes are master-eligible].

30› As to claim 63, Alfieri discloses detecting a failover condition on said master-eligible node [column 9 «lines 51-61» | Table 1].

31› As to claim 64, Alfieri discloses notifying when nodes fail but does not disclose notifying said coordinator that said master-eligible node is to be demoted.

32› Sreenivasan discloses further comprising notifying said system services coordinator that said master-eligible node is to be demoted [paragraphs 0073, 0209]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's demote notification functionality into Alfieri's cluster system. As Alfieri discloses notifying when nodes fail, Sreenivasan provides an improvement, allowing nodes to be notified when their master fails as well.

33> As to claim 65, Alfieri does not expressly disclose the claimed limitations.

34> Sreenivasan discloses the method of claim 31 further comprising promoting a node in the set of nodes to be master eligible, the promoting comprising:

initiating a promote callback sequence from the system services coordinator [paragraphs 0015, 0073 where: it would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's method of assigning a backup node to be the new primary as equivalent to a promote function];

transitioning centralized system services servers on said promoted node to an availability state [paragraph 0061, 0238]; and

updating said system services coordinator [paragraph 0169, 0173, 0181].

Alfieri discloses signaling allowable nodes which suggests qualifying certain nodes for certain services, but does not specify promoting nodes to be master nodes. It would have been obvious to one of ordinary skill in the art to include Sreenivasan's promote and vice node functionality into Alfieri's cluster system to provide fault tolerance. Such an improvement enhances Alfieri's ability to handle master node failures and is keeping in line with Alfieri's stated goal of providing improved performance by nodes during node transitions [see Alfieri, column 5 «lines 34-37»].

35> As to claim 66, Alfieri discloses notifying said system services coordinator that said promoted node is to be promoted [column 6 «lines 23-54»].

36> As to claim 67, Alfieri discloses disallowing nodes from being eligible for certain services but does not expressly disclose the claimed limitations.

37> Sreenivasan discloses disqualifying a node in the cluster from being master eligible within a network for exchanging information, the disqualifying comprising:

initiating a disqualify callback sequence from a system services coordinator [paragraphs 0222, 0226, 0246 where: Sreenivasan's function checks a flag before allowing a node to join the cluster (where the setting of the flag to false disqualifies the node)];

setting a master eligible attribute at said node [paragraphs 0222, 0226];

transitioning centralized system servers on said node to an offline state [paragraph 0061, 0238, 0246].

As Alfieri discloses disallowing nodes, it would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's disqualify functionality from preventing a node to be master eligible. Such functionality was suggested already by Alfieri and Sreenivasan provides an improvement of preventing incapable nodes from being master nodes.

38> As to claim 68, Alfieri discloses notifying said system services coordinator that said promoted node is to be disqualified [column 10 «lines 61-64»].

39> As to claim 69, Alfieri discloses signaling allowable nodes, but does not expressly disclose the claimed limitations.

40> Sreenivasan discloses the method of claim 31 further comprising qualifying a node in the cluster to be master eligible, the qualifying comprising:

initiating a qualify callback sequence from the system services coordinator [paragraphs 0220, 0226 where: a function that checks a flag before allowing a node to join the cluster (where the setting of the flag to true qualifies the node)];

setting a master eligible attribute at said qualified node [paragraphs 0222, 0226];

transitioning centralized system servers on said qualified node to a spare state [paragraph 0061, 0238].

Alfieri discloses signaling allowable nodes which suggests qualifying certain nodes for certain services. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's qualify functionality into Alfieri to signal when nodes are capable of becoming masters of the cluster. Such an implementation was suggested by Alfieri already, and Sreenivasan provides an explicit improvement to Alfieri's "allowable_node" list.

41> As to claim 70, Alfieri does not expressly disclose the claimed limitations.

42> Sreenivasan discloses the method of claim 69 further comprising notifying said system services coordinator that said qualified node is to be promoted [paragraphs 0073, 0074, 0076, 0250]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's functionality into Alfieri's cluster system to promote only those nodes that are capable and allowed to become masters.

43> As to claim 71, Alfieri discloses shutting down a node in the cluster, the shutting down comprising:

invoking callbacks of centralized system services on said shutdown node by a system services coordinator [column 12 «lines 7-10»];

requesting said shutdown node to be removed from said network by said system services coordinator [column 4 «lines 24-34» | column 7 «lines 8-55»]; and

terminating said system services coordinator [column 4 «lines 24-34»].

44> As to claim 72, Alfieri discloses terminating said centralized system services when all messages and commands are received at said system services coordinator [column 7 «lines 8-55»].

45> As to claim 73, Alfieri discloses shutting down said operating system at said shutdown node [column 7 «lines 8-55»].

46> As to claim 74, Alfieri discloses the method of claim 71 wherein said node is the master node within said network [column 6 «lines 23-54» | column 7 «lines 8-55» where : Alfieri discloses shutting down any node in the cluster].

47> As to claim 75, Alfieri does not disclose initiating a switchover on said master node.

48› Sreenivasan discloses the method of claim 74 further comprising initiating a switchover on said master node [abstract | paragraph 0017]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice node to backup the master node as necessary.

49› As to claim 76, Alfieri does not disclose the claimed limitation.

50› Sreenivasan discloses said shutdown node is a vice node within said network [paragraphs 0015, 0063 where: Sreenivasan's N2 (backup) has equivalent functionality to the claimed vice node]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice node to backup the master node as necessary.

51› As to claim 77, Alfieri does not disclose the claimed limitation.

52> Sreenivasan discloses the method of claim 76, further comprising initializing another vice node [paragraph 0020 where: there are several backup copies to the primary node that are analogous to a vice node]. It would have been obvious to one of ordinary skill in the art to incorporate Sreenivasan's backup nodes into Alfieri's cluster system to provide a layer of fault-tolerance when a master node becomes incapable of providing services. Such an implementation is reasonable as Alfieri discloses transferring states between nodes when nodes fail but did not expressly disclose master nodes. Therefore, Sreenivasan provides an improvement of a vice node to backup the master node as necessary.

53> As to claim 78, Alfieri discloses rebooting said shutdown node [column 7 «lines 34-43»].

54> As to claim 79, Alfieri discloses removing a node from the cluster, the removing comprising:

initiating a shutdown callback sequence from the system services coordinator, wherein said shutdown callback sequence includes levels [column 7 «lines 44-55»];

notifying said system services as said levels are completed and terminating centralized system services on said removed node [column 5 «lines 27-55»]; and

terminating said system service coordinator [column 4 «lines 24-34»].

55> As to claim 80, Sreenivasan discloses the method of claim 79, further comprising requesting said removed node to be deleted from said cluster [column 4 «lines 24-34»].

56> Claims 3 and 18 are rejected under 35 U.S.C § 103(a) as being unpatentable over Alfieri, Sreenivasan and Azagury in view of Sun et al, U.S Patent Publication No. 2002/0152373 A1 ["Sun"].

57> As to claim 3, Alfieri does not specifically disclose a network wherein said master node communicates via a carrier grade transport protocol.

58> Sun discloses a network wherein nodes communicate via a carrier grade transport protocol [paragraphs 0060 and 0071] for the obtained advantage of creating a more robust and manageable system. It would have been obvious to one of ordinary skill in the art to incorporate carrier grade transport protocol into Alfieri's system to take advantage of the benefits provided by protocol as taught by Sun such as simplifying the provisioning, configuration and management of network services.

59> As to claim 18, as it is merely is a node that implements the same functionality of the network of claim 3, it does not teach or further define over the limitations of claim 3. Therefore, claim 14 is rejected for the same reasons set forth in claim 3, supra.

60> Claims 14, 16, 17, 21-26, 31, 36-39 and 41-50 are rejected under 35 U.S.C § 103(a) as being unpatentable over Alfieri, in view of Azagury.

61› As to claim 14, Alfieri discloses a node within a network of nodes for exchanging information, comprising:

a centralized system service to run on a primary server on the node, the centralized system service comprising a mechanism for monitoring membership of a set of the network nodes in a cluster providing a distributed application environment [Figure 3 | column 4 «line 36» to column 5 «line 55»];

a system services coordinator to coordinate a transitional function regarding said centralized system service [abstract | column 4 «line 63» to column 5 «line 26»]; and

a high availability level and an operating system level, wherein said system service coordinator resides in said high availability level and wherein said centralized system service is at least partially resides in the operating system level [Figure 3 | column 4 «lines 36-62» where : Alfieri's transition notification framework corresponds to the system services coordinator and is on a lower level (high availability) with the event manager subsystem on a higher level (operating system level)].

Alfieri discloses wherein said transitional function includes a sequence used by the system services coordinator in performance of the transitional function including transition to an appropriate availability states [column 4 «lines 4-34» | column 4 «line 63» to column 5 «line 26»], but does not explicitly disclose that the sequence is a callback sequence.

62› Azagury discloses a transitional functional including a callback sequence [column 5 «lines 1-25»]. It would have been obvious to incorporate Azagury's callback and message sequencing into Alfieri's cluster system so that callbacks can be specifically defined for each

message within a sequence. One would have been motivated to provide such functionality into Alfieri so that specific callbacks can be invoked in a sequence to handle messages in the order they are received [see Azagury column 2 «lines 57-63»].

63> As to claims 16 and 17, Alfieri discloses said centralized system service comprises a naming service [column 15 «lines 38-63» : Alfieri discloses ability to name events], or a component role assignment manager [column 10 «lines 23-31» | column 11 «lines 8-11» : decision making node selects best node].

64> As to claims 21-26, as they are merely nodes that implement the same functionality of the network of claims 5-10, respectively, it does not teach or further define over the claimed limitations. Therefore, claims 21-26 are rejected for the same reasons set forth in claims 5-10, supra.

65> As to claim 31, Alfieri discloses a method for coordinating a system service within a network having a plurality of nodes, the system service comprising a cluster membership monitor for managing a cluster including a set of the plurality of nodes, comprising:

receiving a request at a system services coordinator on a master node, said system services coordinator having a component at each of said plurality of nodes in the cluster [column 4 «lines 37-62» | column 6 «lines 23-54»];

using said callback for performing a function at one of said plurality of nodes in response to said request, wherein said using includes invoking callback functions having

levels, said levels correlating to completing stages of said callback functions [column 8 «lines 44-67» | column 11 «line 55» to column 12 «line 45»]; and

reacting to said function by said system services coordinator on said node and communicating a reaction to said system services coordinator [column 11 «lines 55» to column 12 «line 45»];

receiving said levels at said system services coordinator as said stages are completed [column 8 «line 34» to column 9 «line 40»].

Alfieri does not disclose registering a callback sequence with said system services coordinator.

66› Azagury discloses a transitional functional including a callback sequence and registering said callback sequence (of actions) [column 5 «lines 1-25» | column 12 «lines 53-56»]. It would have been obvious to incorporate Azagury's callback and message sequencing and registration into Alfieri's cluster system so that callbacks can be specifically defined for each message that is passed between nodes within a sequence of functions that are invoked by Alfieri's nodes. One would have been motivated to provide such functionality into Alfieri so that specific callbacks can be invoked in a sequence to handle messages in the order they are received by nodes [see Azagury column 2 «lines 57-63»].

67› As to claim 36, Alfieri discloses transitioning said system services according to said callback sequence [column 4 «line 59» to column 5 «line 43»].

68› As to claim 37, Alfieri discloses interfacing said system services with said plurality of node [column 15 «line 64» to column 16 «line 31»].

69› As to claim 38, Alfieri discloses:

determining levels of said callback sequence, said levels correlating to stages of completing said function [column 4 «lines 3-34» | column 5 «lines 23-55»];

receiving said levels at said system services coordinator [column 5 «lines 27-55» | column 8 «lines 44-67»]; and

publishing events from said node by said system services coordinator correlating to said received levels [Table 1 : notifications of state transitions for the nodes].

70› As to claim 39, Alfieri discloses communicating said levels to said system service coordinator [column 8 «line 34» to column 9 «line 40»].

71› As to claim 41, Alfieri discloses initializing a node in the cluster, the initializing comprising:

registering said system service on said node with one of the components of the system services coordinator [column 10 «lines 23-36»];

triggering an initializing function having levels [column 8 «lines 44-63» | column 13 «line 43» to column 14 «line 43»]; and

receiving notification at said system services coordinator for completing said levels [column 8 «lines 34-43» : "Table 1"].

72> As to claim 42, Sreenivasan discloses retrieving boot parameters for said node [column 6 «lines 23-30»].

73> As to claim 43, Sreenivasan discloses the method of claim 41, further comprising starting up an operating system on said node [column 1 «lines 10-16» | column 6 «lines 23-30»].

74> As to claim 44, Alfieri discloses loading a configuration table of said network [column 3 «lines 56-65» | column 6 «lines 23-28»].

75> As to claim 45, Alfieri discloses participating in formation protocol for said network by sending information about said node [column 3 «lines 56-67» | column 5 «lines 27-55»].

76> As to claim 46, Alfieri discloses initializing non-centralized system services on said node by registering said non-centralized system services with said system services coordinator [column 1 «lines 10-18» | column 10 «lines 23-36» | column 11 «lines 20-27»].

77> As to claim 47, Alfieri discloses a method for coordinating initialization in a network having a plurality of nodes, comprising:

registering centralized system services within said network with a system services coordinator [column 10 «lines 23-37»];

electing a master node within said network and sending information on said master node to said plurality of nodes [column 6 «lines 28-44» | column 11 «lines 8-11»];

using callbacks at said system services coordinator to trigger initialization levels at said plurality of nodes [column 14 «Table 2» | column 13 «line 44» to column 15 «Table 3»]; and

informing said plurality of nodes when said master node completes said initialization levels via said system services coordinator [column 6 «lines 23-54» | column 8 «lines 44-63»].

Alfieri does not explicitly disclose registering callback actions with said system services coordinator.

78› Alfieri discloses function actions that are a component of a subsystem of each node in the cluster, implicitly suggesting that the actions have been "registered" as components in the subsystem. Furthermore, Azagury discloses callbacks registered as part of the function coordinated by coordinators (FGM) [column 3 «lines 12-27» | column 11 «lines 43-47»]. It would have been obvious to one of ordinary skill in the art to incorporate Azagury's registration of the callbacks into Alfieri's system so that his nodes can utilize the callbacks for particular messages.

79› As to claim 48, Alfieri discloses the method of claim 47 further comprising registering said system services coordinator with a membership monitor within said network [column 4 «lines 37-62» | column 9 «line 56» to column 10 «line 20»].

80> As to claim 49, Alfieri discloses the method of claim 48, wherein said electing includes claiming said master node by said membership monitor [column 6 «lines 28-44» | column 11 «lines 8-11»].

81> As to claim 50, Alfieri discloses the method of claim 47, further comprising reading a configuration table of said network [column 3 «lines 56-67»].

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC

Dung C. Dinh
Primary Examiner